

Stockwell, H.G., Goldman, A.L., Lyman, G.H., Noss, C.I., Armstrong, A.W., Pinkham, P.A., Candelora, E.C., and Brusa, M.R., "Environmental Tobacco Smoke and Lung Cancer Risk in Nonsmoking Women," Journal of the National Cancer Institute 84: 1417-1422, 1992.

This case-control study, conducted in central Florida, included 210 nonsmoking female lung cancer cases and 301 controls. Nonsmokers were defined as having smoked for a total of less than six months or having smoked less than 100 cigarettes in one's lifetime. Interviews were conducted either in person or via telephone. More than two-thirds of the interviews were conducted with surrogate respondents; approximately 44% were with surrogates other than the cases' husbands. The authors reported several statistically significant ORs: for the highest categories of exposure, for lung cancer cell types other than adenocarcinoma, and for exposure estimates based on responses by cases and their husbands. However, many ORs, including the overall estimate for spousal smoking, were not statistically significant. Nevertheless, the authors concluded that "long-term exposure to environmental tobacco smoke increases the risk of lung cancer in women who are nonsmokers."

- Based on a yes/no definition of exposure, an odds ratio for spousal smoking of 1.6 (95% CI 0.8-3.0) was reported. The numbers of cases and controls used in calculating this risk estimate were not presented.
- Odds ratios were also calculated for reported exposure from parents and siblings during childhood. Statistically significant odds ratios were reported for the highest index of exposure, namely, 22 or more smoke-years (the sum of reported years of exposure to cigarette smoke from each smoker in the household).
- The authors wrote: "We found no statistically significant increase in risk associated with exposure to environmental tobacco smoke at work." However, they failed to present the data on this index of exposure.
- Adenocarcinoma accounted for 61% of the cases in this study. When the data were analyzed by lung cancer cell type, no relative risk higher than 2.0, and no statistically significant relative risk, was reported for adenocarcinoma. These data thus contrast with the recent Fontham, et al., study, which reported elevated ORs for adenocarcinoma.
- More than 80 risk estimates were presented in this study; "data-dredging" is thus evident.

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The authors do not indicate the numbers of cases and controls associated with the multitude of ORs presented. It is not possible to determine whether the same subgroup of cases was the basis for all the reported statistically significant risk estimates.

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